

Amendments to the Claims

Please amend claims 1-3, 5, 7, 13, 15, and 17-20 and cancel claims 4, 8-12, 14, and 16 without prejudice. Please add new claims 21-32. This listing of the claims replaces all prior listings of the claims.

1. (Currently Amended) A probe module comprising:

a probe base;

a plurality of probe pins supported ~~carried~~ by ~~said the~~ probe base, each of the probe pins comprises an elongated arm body, wherein at least part of the elongated arm body is bonded with the probe base; and

a circuit interconnect device for connecting said plurality of probe pins to an inspection apparatus.
2. (Currently Amended) The probe module of claim 1, wherein each of ~~said the~~ plurality of probe pins ~~comprises a probe pin body,~~ further comprises a probe pin head ~~carried~~ supported by ~~said the~~ probe pin body and a generally tapered probe pin tip provided on ~~said the~~ probe pin head.
3. (Currently Amended) The probe module of claim 1, wherein ~~said the~~ circuit interconnect device comprises a plurality of conductive probe circuits provided on ~~said the~~ probe

base in electrical contact with ~~said~~ the plurality of probe pins, respectively, and a flexible circuit board provided in electrical contact with ~~said~~ the plurality of conductive probe circuits.

4. (Canceled).

5. (Currently Amended) The probe module of claim 1, wherein each of ~~said~~ the plurality of probe pins further comprises ~~a probe pin body~~, a probe pin head supported ~~carried~~ by ~~said~~ the probe pin body and a generally semi-spherical probe pin tip provided on ~~said~~ the probe pin head.

6. (Canceled).

7. (Currently Amended) The probe module of claim 1, further comprising a compression arm ~~carried~~ supported by ~~said~~ the probe base and ~~engaging said~~ configured to engage the plurality of probe pins.

8. (Canceled).

9. (Canceled).

10. (Canceled).

11. (Canceled).

12. (Canceled).

13. (Currently Amended) A probe module comprising:

a probe base;

a plurality of probe pins each having ~~[[a]]~~ an elongated arm portion and a generally tetrahedral probe pin tip, wherein at least a portion of the elongated arm portion is bonded with the ~~carried by said~~ probe base; and

a circuit interconnect device for connecting said plurality of probe pins to an inspection apparatus.

14. (Canceled).

15. (Currently Amended) The probe module of claim 13, wherein the ~~said~~ circuit interconnect device comprises a plurality of conductive probe circuits ~~provided~~ supported on ~~said the~~ probe base in electrical contact with ~~said the~~ plurality of probe pins, respectively, and a flexible circuit board provided in electrical contact with ~~said the~~ plurality of conductive probe circuits.

16. (Canceled).

17. (Currently Amended) The probe module of claim 13, further comprising a compression arm ~~carried~~ supported by ~~said the~~ probe base and engaging ~~said the~~ plurality of probe pins.

18. (Currently Amended) A probe pin for a probe module, comprising:
a probe pin body that is elongated and having at least a portion bonded with a base unit;
a probe pin head supported ~~carried~~ by ~~said the~~ probe pin body; and
a probe pin tip provided on ~~said the~~ probe pin head.

19. (Currently Amended) The probe pin of claim 18 ~~17~~, wherein ~~said the~~ probe pin tip has a generally polyhedral configuration.

20. (Currently Amended) The probe pin of claim 18 ~~17~~, wherein ~~said the~~ probe pin tip has a generally semi-spherical configuration.

21. (New) A probe module comprising:
a probe base having conductive metal traces;
probe pins coupled with the conductive metal traces; and

a flexible circuit board coupling the probe pins for testing.

22. (New) The probe module of claim 21, wherein the flexible circuit board couples the probe pins to a testing unit via the conductive metal traces.

23. (New) The probe module of claim 21, further comprising:
a compression arm configured to engage the probe pins.

24. (New) The probe module of claim 21, wherein the probe pins include a probe head having at least one of a tapered, semi-spherical, inverted-pyramid, or a tetrahedral shape.

25. (New) The probe module of claim 21, wherein the probe pins include an elongated arm body such that at least a part of the elongated arm body is attached with the probe base.

26. (New) A method of making probe pins comprising:
forming a plurality of pin cavities in a semiconductor substrate using etching techniques,
each pin cavity having an elongated body section and a head section; and
forming a metal layer in the pin cavities.

27. (New) The method of claim 26, wherein forming the plurality of pin cavities includes forming a pin head cavity having an inverted pyramid, tapered, or tetrahedron shape.

28. (New) A method of making probe pins comprising:
forming a plurality of pin cavities in a semiconductor substrate using etching techniques, each pin cavity having an elongated body section;
forming a first metal layer in the elongated body section of each pin cavity; and
forming a second metal layer on the first metal layer of each pin cavity to form a probe head tip.

29. (New) The method of claim 28, wherein forming the second metal layer includes forming a probe head tip having a flat shape.

30. (New) A method of making probe device comprising:
forming metal probe pins in a semiconductor substrate, the metal probe pins having an elongated body section and a head tip section;
attaching a part of the elongated body section of the metal probe pins to a probe base; and
attaching a flexible circuit board to the probe base to couple the metal probe pins to a testing unit.

31. (New) The method of claim 30, wherein the attaching the part of the elongated body section to the probe base includes bonding a part of the elongated body section to the probe base.

32. (New) The method of claim 30, wherein forming the metal probe pins includes forming metal probe pins having a head tip section with at least one of a tapered, semi-spherical, inverted-pyramid, or tetrahedral shape.